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FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

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IN REPLY REFER TO:

Honorable Strom Thurmond  
United States Senate  
217 Russell Senate Office Bldg.  
Washington, DC 20510-4001

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Dear Senator Thurmond:

This is in response to your letter of May 5, 1993, addressing personal communications service (PCS). Your constituent, Luther E. Kneece, Vice President and General Manager of the Pond Branch Telephone Company, requests that local exchange carriers (LECs) be permitted to participate in providing PCS to its customers, particularly in rural areas.

On July 16, 1992, in adopting a series of proposals that would establish a regulatory framework to govern provision of PCS, the Commission tentatively concluded that there is a strong case for allowing LECs to provide PCS within their respective service areas, but requested public comment on this issue and on whether LECs holding cellular licenses should be treated differently (GEN Docket No. 90-314 and ET Docket No. 92-100). The Commission also sought comment on alternatives, such as restricting LECs from obtaining a full PCS license in their service area but permitting them to apply for a license or to lease or purchase rights to use an amount of spectrum smaller than that authorized other PCS providers. A copy of the Commission's proposals, which address the status of LECs at paragraphs 71-80, is enclosed.

I anticipate that the Commission will address these PCS issues later this year. Please be assured that your constituent's concerns will be taken into account before a final decision is made and, for that purpose, I am placing a copy of his letter into the record of this proceeding.

Sincerely,

*Thomas P. Stanley*

Thomas P. Stanley  
Chief Engineer

Enclosure

No. of Copies rec'd  
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STROM THURMOND  
SOUTH CAROLINA  
COMMITTEES

ARMED SERVICES  
JUDICIARY  
VETERANS' AFFAIRS  
LABOR AND HUMAN RESOURCES

# United States Senate

WASHINGTON, DC 20510-4001

May 14, 1993

~~cc~~ ccb  
cc  
2208

Mr. Steve Klitzman, Associate Director  
Office of Congressional Liaison  
Federal Communications Commission  
1919 M Street, N.W.  
Room 314  
Washington, D.C. 20554

Dear Mr. Klitzman:

Enclosed is a copy of correspondence I have recently received from Mr. Luther E. Kneece. I believe you will find it self-explanatory.

Your reviewing this material and providing any assistance and/or information possible under the governing statutes and regulations will be greatly appreciated. Thank you for your attention in this matter, and I look forward to hearing from you soon.

With kindest regards and best wishes,

Sincerely,

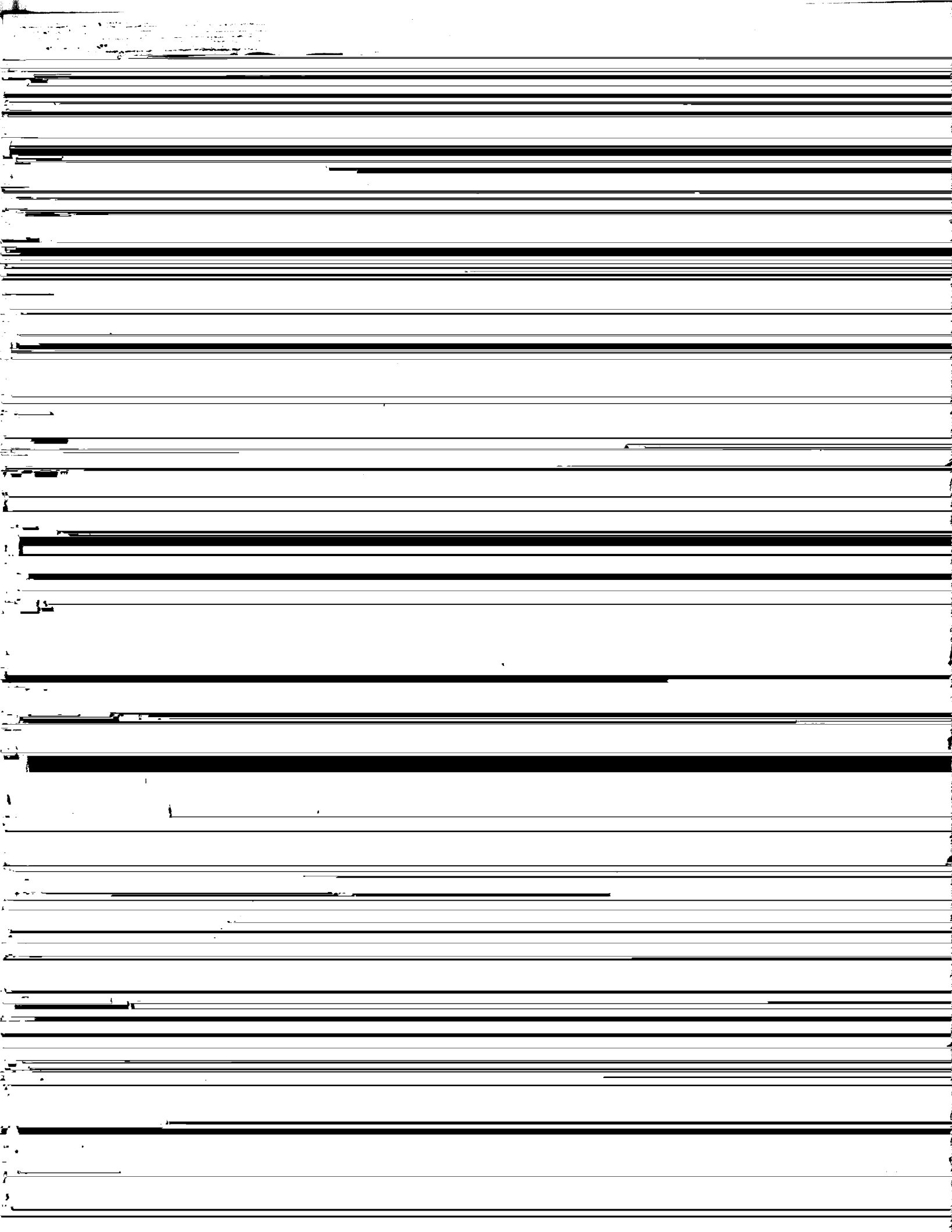
*Strom Thurmond*

Strom Thurmond

ST/hc  
Enclosure

Please include in your response case number # 3133220002

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May 5, 1993

Letter to The Honorable Strom Thurmond

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Any assistance that you could render to our companies and the other providers of local exchange service would be greatly appreciated and long remembered. If you would like additional information on the PCS concept, I have enclosed a short white paper for you or your Staff's consideration and review. Also, I am available at telephone number (803) 894-4000 to answer any pending questions on this matter.

I am...

Sincerely,

**PCN\PCS**

**A LOCAL EXCHANGE COMPANY DILEMMA  
OR BLESSING?**

Pond Branch Telephone Company, Inc.  
May 1993

## **WIRELESS COMMUNICATIONS - A PRIMER**

The 1980's brought the advent of cellular communications to the telecommunications subscriber. A cellular phone is actually more a radio than a telephone. Cellular's ancestor, "mobile" phone systems, used a single powerful radio transmitter that broadcast to motorized vehicles with mobile telephones in certificated service areas. As the vehicle moved further and further away from the transmitter site, the signal became distorted and noisier. Gone was the old car phone that was solely dependent on a party line concept of a few channels allocated to a large number of customers. This technology that was developed by AT&T Bell Laboratories devised a way to use a small number of fixed, lower powered radio channels that they divided among "cells" so that the frequencies could be reused. In 1985, there were just 340,000 cellular phones in operation. It is predicted that there will be more than 10 millions phones in operation by the end of 1993.<sup>1</sup> Low powered transmitter sites (towers) sprang up on all of the hills and knolls in Rural America greatly distorting the picturesque view providing cellular services to urban America. The 1990's saw cellular service provided to limited rural areas with many areas left uncovered because the providers of cellular service made a "conscious" decision to provide service to the most populous markets initially, a decision that local exchange companies are not willing make in these areas, with many areas still not being served by cellular carriers.

## **FUTURE ENHANCEMENTS IN WIRELESS COMMUNICATIONS**

The mid 1990's is upon us and those telephone acronyms PCN and PCS are making a prominent appearance in discussions among the FCC, Governmental Officials on Capitol Hill, national and state telephone associations, various consortiums, telecommunications industry representatives, speculators and others with "gold dust" in their eyes.

This enhanced technology, Personal Communications Networks (PCN) and Personal Communications Services (PCS), adds a new dimension to the terminology - mobile communications services- that cellular service brought to telecommunications services. Unlike cellular, PCN/PCS promises to be affordable for a wide range of users, offers number portability, low cost/ lightweight telephone sets, and more enhancements to the subscriber.

Common to PCN and PCS are certain basic components including hand-held, pocket-sized radiotelephones employing low levels of power and communicating with fixed low-power base

stations. Systems are either microcellular or picocellular. Microcellular implies the utilization of cells notably smaller than conventional cellular service. Cells in cellular technology are typically 15Km in radius compared to PCN "microcells" which are generally about 200 meters in radius. Picocellular cells are even smaller. A microcell could be as small as a one or two city blocks. A picocell could be as small as an individual office or meeting room. A microcellular base station can be envisioned as about the size of a breadbox, while a picocellular base station could be as small as a matchbox.

Microcellular base stations would fit into public surroundings. At present, microcellular systems are envisioned as serving individuals who are either stationary or walking. On the other hand, picocellular systems will be used in offices, buildings, and industrial parks, with the system functioning as a wireless PBX. An underlying concept of PCS and PCN is that calls are made and received by a person, not a location. Personal, transportable telephone numbers will be assigned to each person's handset to facilitate expansive communication. Calls can take place virtually anywhere with system intelligence and line information database. It will be possible to reach subscribers anywhere in this country or foreign countries.

PCN technology is not just important to the future of urban telephone companies. PCN/PCS is paramount to rural companies. The reality is that in rural applications that several base stations may be sufficient to cover entire towns. This concept raises the prospect of others with a less costly investment base competing with the local exchange company's massive investment in embedded plant. These wireless competitors basically have the ability to overshadow and destroy the local exchange company.

Unlike cellular, which has remained expensive and is an uneconomic wireless bypass technology, PCN is envisioned as a low-cost technology. Some industry experts estimate PCN costs at several hundred dollars per access channel as opposed to much more expensive copper and fiber loops.

#### ALLOCATION OF SPECTRUM FOR PCN

A variety of other issues relate to spectrum. There is a severe shortage of usable radio spectrum and demands for spectrum allocation continues to grow. The most challenging and controversial decision confronting the FCC may be in the determination of frequency allocation for

presently, the 1.7 to 2.3 GHz frequency range is divided into five (5) bands. These bands are already allocated as follows:

1.71-1.85 and 2.20-2.90	GHz for government use
1.85-1.99	GHz for private-operational fixed microwave use
1.99-2.11	GHz for auxiliary broadcast and CATV use
2.11-2.20	GHz for public fixed microwave use

### **PCN/PCS - ITS FAR REACHING IMPACT ON TELECOMMUNICATIONS**

Personal communications services stand to dramatically change lifestyles by freeing individuals from the constraints of wired telecommunications. All pending proceedings, coupled with the extend of interest shown by would-be entrants into the PCN/PCS market will significantly influence the development, deployment, and ultimate success of new wireless technologies. The progress and path of the FCC's efforts merit close attention, particularly in issues related to eligibility. Those who make policy and those who influence the process must recognize the global impact of personal communications technology. They must work from the outset toward clear and equitable policies and rules that will endure the test of time allowing all local exchange companies, interexchange carriers, and other non-wireline competitors to share in the benefits derived from an enhanced wireless telecommunications network by the deployment of PCN/PCS. In adhering to these concerns, it is our hope that competition and entry into the market by local exchange companies will enhance the likelihood of rapid deployment of PCN/PCS in all areas immediately, unlike cellular services. This will be due to the fact that local exchange companies might otherwise be precluded from entry and their vast experience in design, provision, marketing, and customer relations will not be able to be utilized to bring these services to Rural America.

### **IN SUMMARY**

PCN/PCS is an affordable, universally accessible, wireless voice-communication service. It is designed to literally connect people to people with number portability through the use of small, inexpensive, light-weight, low-power, portable handsets with signal transmission over low-powered "microcells" generally 200 meters in radius bypassing the local exchange companies. It promises to change the way that we communicate with the "world". It has the potential of providing flexibility to enhance everyones' lifestyles. Rapid deployment of these services irrespective of rural or urban setting can be readily achieved by allowing longitude and freedom of entry by all financially and technologically qualified players.